

REMARKS

Claim Rejections – 35USC § 103

Reconsideration is respectfully requested for Claims 1, 4-5, 7, 10, 12, 14, 18, 20, 23, 26, 29, 34-35, 37, 39, 51, 54, 60, 61, 63, 69, 72, and 73, said claims having been rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 1,507,877 to Wilson in view of U.S. Patent No. 5,709,416 to Wood. These rejections are respectfully traversed.

Applicants respectively submit that Wood is concerned with the re-direction of forces to an axial direction thus preventing any rotation of the threaded joint in a direction so as to loosen the threaded joint and not with bearing compressive loads such as may be due to the coupled pipe being driven into the earth..

In sharp contrast, the Applicants shoulders are designed so as to bear the compressive forces. Although not the only application, one of the important applications of the Applicants' invention is having the shoulders bear the compressive forces which result when a coupled pipe is being driven into the earth such as by hammering. The Applicants' unique design allows the shoulders to bear the compressive weight as opposed to the threads.

Thus, Applicants submit that the Wood threads actually bear the compressive load since they are undercut to specifically be load bearing surfaces of the box and pin respectively (column 3, line 63 - column 4 line 2; column 4, lines 9-16). Applicants further submit that although Wood discusses that the undercut threads, the mortise, and the tenon transfer all vector forces into the axial direction, if the Wood threads are subjected to the large compressive forces, such as those generated by the driving of the pipe into the earth, there is no teaching by Wood that the Wood shoulders would be sufficient to support such compressive loading without damage to the threads. Applicants further respectfully bring to the Examiner's attention that Wood does not describe the shoulders clearly. Although the specification, regarding FIGS. 4-5 and 6-7, describes load bearing surfaces 1-6 and 8-12, respectfully, there are no elements numbered as such on FIGS. 4-7, or any of the other figures, thus making it very difficult to determine exactly which surfaces are the load bearing surfaces. However, it is clear from Wood's description at column 3, lines 34-45 and FIG 11, that the tenon and mortise do not fully contact each other and thus are not intended to be load bearing surfaces that could carry at least a substantial amount of the force. In sharp contrast, the Applicants' shoulders do fully mate and are intended to be load bearing.

As per Claim 1, Applicants respectfully submit that neither Wilson nor Wood, alone or in combination, teach, disclose, nor suggest that at least one of said protuberances embodies at least one interference dimension that causes the protuberance to displace a mating protuberance surface. Further, as per Claims 1, 23, 37, 51, and 69, Applicants respectfully submit that neither Wilson nor Wood teach that at least one of the double shoulders and corresponding mating nose ends are shaped so as to substantially entrap the nose end within the shoulder **to absorb shock loads** which may occur in at least one application of the invention due to hammering when the connected pipes are forced into the earth. In sharp contrast, the Applicants' double shoulder design allows for the shoulders/abutments and the mating nose ends to absorb the hammering impacts and thus substantially reduce or eliminate the shock loads or compressive forces on the thread surfaces. Further by having at least one shoulder and mating nose end shaped so as to substantially entrap the nose within the shoulder, the Applicants can substantially restrain the radial forces, from the hammering, from causing damage to the tubulars at the connection point.

It is respectfully submitted that Wood does not add anything to Wilson which discloses or makes obvious the instant invention, therefore, it is respectfully submitted that Claims 1, 23, 37, 51, and 69 and Claims 4-5, 7, 10, 12, 14, 18, 20, 26, 29, 34-35, 39, 54, 60, 61, 63, 72, and 73, which depend from Claims 1, 23, 37, 51, and 69 are patentable over the cited Wilson reference alone or in combination with Wood and as such a favorable condition of such claims is respectfully requested.

Reconsideration is respectfully requested for Claims 1-5, 7, 10, 12-15, 17-21, 23, 26, 28, 29, 32-39, 51, 54, 56-58, 60, 61, 63-66, 69, 72, and 73, said claims having been rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,283,511 to Kamp in view of U.S. Patent No. 5,709,416 to Wood. These rejections are respectfully traversed.

Particularly, the Examiner alleges that it would have been obvious to one having ordinary skill in the art to configure the abutment surfaces of Kamp as taught by Wood. Applicants respectfully submit that the Wood and Kamp connections embody different design philosophy and as such there would be no motivation to combine the mortice and tenon teachings of Wood with Kamp.

Kamp clearly teaches a single shoulder surface 7, 57. The second Kamp "abutment surfaces" (20/86) are not a shoulder and a mating nose end. Kamp's element 20 is an engaging

tooth (see col. 6, lines 15-16) and the abutment surface 35 is formed on an axial projection of the tooth 20 (see Col. 11, lines 28-29) Kamp's element 86 is formed on a radial projection of abutment surface 85 (see Col. 11, lines 37-38). Thus, Kamp does not teach a second shoulder but instead teaches a rotational stop, together identified as tooth 20, its abutment surface 35 and element 86 and its abutment surface 85. Wood, at column 3, lines 62-63, describes that the necessary coupling occurs during the last infinitesimal turn of the pin on the box. Kamp's rotational stop is to prevent overturning. Thus, Applicants respectfully submit that the tenon/mortice design of Wood, which relies on turning until coupled, and the positive rotational stop of Kamp are not adaptable to each other as it is possible that the positive rotational stop of Kamp would prevent the complete coupling required by the teachings of Wood; thus, destroying the purpose of Wood. There is thus no motivation to combine the disclosures of Kamp and Wood, which, as a matter of law, precludes their being combined as a reference under 35 U.S.C.

Further, Applicants respectfully submit that Kamp does not teach, disclose, nor suggest the utilization of double shoulders mating so as to **bear compressive loads** to which the male and female ends are exposed during at least one application of the invention such as the hammering of the tubulars into the earth. Because Wood also does not teach nor suggest the utilization of the shoulders mating so as to **bear compressive loads** to which the male and female ends are exposed during the hammering of the tubulars into the earth, Wood does not add anything to Kamp.

Further, as per Claims 1, 23, 37, 51, and 69, neither Wood nor Kamp, alone or in combination, teach, disclose, nor even suggest mating double shoulders nor that these shoulders bear compressive forces, as opposed to the teeth/protuberances, nor that an entrapment of nose end within a mating shoulder end restrains radial movement of the tubular, such as during hammering, to avoid damage to the tubular connection. Still further, per Claims 23, 37, 51, and 69 the abutment surfaces are distinct from surfaces of the threads or teeth. Both Kemp and Wood rely on surfaces other than mating shoulders for abutment.

There is no motivation to combine the teachings of Wood with Kamp because Wood does not add anything to the Kamp connection. Further, Applicants submit that the stop lugs of Kamp would destroy the purpose of Wood because Wood requires for the threads to be rotated until tight with load bearing surfaces in contact with each other.

Thus, it is respectfully submitted that Wood does not add anything to Kamp which

discloses or makes obvious the instant invention, and there is no motivation to combine Kamp and Wood; therefore, it is respectfully submitted that Claims 1, 23, 37, 51, and 69 and Claims 2-5, 7, 10, 12-15, 17-21, 26, 28, 29, 32-36, 38, 39, 54, 56-58, 60, 61, 63-66, 72, and 73, which depend from Claims 1, 23, 37, 51, and 69 are patentable over the cited Kamp reference alone or in combination with Wood and a favorable condition of such claims is respectfully requested.

Reconsideration is respectfully requested for Claims 1, 4-6, 12-14, and 37-39, said claims having been rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 4,185,856 to McCaskill in view of U.S. Patent No. 5,709,416 to Wood. These rejections are respectfully traversed.

McCaskill is a sub-sea connector which does not suggest a need for having shoulders to bear the compressive loads that otherwise must be borne by the threads or protuberances. Applicants respectfully submit that McCaskill does not teach, disclose, nor suggest the utilization of **double shoulders and corresponding nose ends** mating so as to bear compressive loads. Further, McCaskill uses stop lugs 90 and 78 to limit the rotation for making the joint. After stop lugs 90 and 78 contact to limit the rotation a latch 92 is used so as to effectively sandwich stop lug 78 between stop lug 90 and latch 92. This prevents any rotation of the coupled parts in any direction.

There is no motivation to combine the teachings of Wood with McCaskill because Wood does not add anything to the McCaskill connection. Further, Applicants submit that the stop lugs of McCaskill would destroy the purpose of Wood because Wood requires for the threads to be rotated until tight with load bearing surfaces in contact with each other.

McCaskill teaches a **single** shoulder at surfaces 62, 72 with stop lugs and latches and thus requires no other shoulders. Because McCaskill would not be used for connecting pipe being hammered into the earth and such is at least one application of the Applicants' connection, McCaskill does not require load bearing surfaces for axial loads and would not be concerned with any such teachings provided by Wood.

Still further, per Claim 37, the abutment surfaces are distinct from the surfaces of the threads/protuberances. McCaskill teaches other abutment surfaces (stop lugs) and Wood teaches load bearing surfaces on the threads. Therefore, it is respectfully submitted that Claims 1, and 37 and Claims 4-6, 12-14, and 38-39, which depend from Claims 1 and 37 are patentable over

the cited McCaskill reference alone or in combination with Wood and a favorable condition of such claims in respectfully requested.

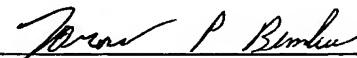
Therefore, neither Kamp nor McCaskill teach nor disclose a connection having double shoulders with mating nose ends and Wood cannot be combined with either Kamp or McCaskill without destroying the purpose of those inventions. Neither Wilson, Kamp, McCaskill, nor Wood teach, disclose, nor even suggest that connected tubulars can be hammered into the earth and that the double shoulders can bear the compressive loads, such as may be generated by the hammering and thus substantially prevent the compressive shock loads from being transmitted to the threads. Thus Applicants respectfully submit that Claims 1-7, 10, 12-15, 17-21, 23, 26, 28, 29, 32-39, 51, 54, 56, 57, 58, 60, 61, 63-66, 69, 72, and 73 are patentable over the cited references.

Conclusion

In light of the above amendments and discussion, Applicants respectfully submit that the application now stands in prima facie condition for allowance and courteously request that this application be advanced to issue. The Applicants are of the opinion that no additional fees are required with the submission of this response. However, if additional fees are required, the Commissioner is hereby respectfully authorized to deduct such fees from Deposit Account Number 13-2166. The Examiner is respectfully invited to call the Applicants' representative, Taras P. Bemko, at 713-355-4200, to discuss any matters, that may arise, where such discussion may resolve such matters and place this application in condition for allowance.

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Respectfully Submitted,



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